

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

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Saturday, March 18, 1848.

Self-connecting & Self-detaching Coupling Box for Railroad Cars.

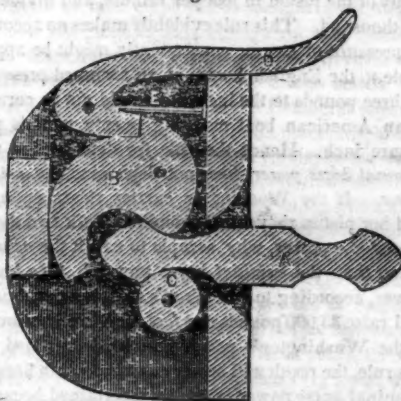
Many serious accidents, even to the occasional loss of life, have occurred to the men whose duty it was to couple, or connect the cars of trains on railroads. We have often shuddered to witness the position of men when performing that operation—while they, from constant habit, had hardly a thought of danger. The modes of coupling, on different roads, are seldom precisely the same, which is an evidence that no one plan, yet in use, is deemed perfect—though it is evident that various efforts have been made to improve this part of the machinery; and it therefore affords us the more pleasure to be able to present to the readers of the Journal a new plan of a coupling apparatus, invented by Mr. A. G. HECKWORTH, of Washington city.

A great convenience of the article is its *self-connecting* arrangements—by bringing the two cars together—and also in its *self-disconnecting* apparatus, when, by any accident or carelessness, the engine or leading car of a train is thrown from the track, thereby making a greater angle, with the train behind, than is made by the *shortest* curves on the road.

The following cuts represent the coupling in two parts, which are to be attached, one to each end of

the car, so that, when two cars are brought together, the bar A, being inserted in one box, is held in position to enter Fig. 2—while the tumbler B, in box Fig. 2, is in position to receive the bar A—which, as it enters, without the aid of hands—being guided by the curves on each side, and a lip falling below—pushes the tumbler, B, back until it comes into the same position as that in Fig. 1—when it is secured

Fig. 1.



by the lever D—operated upon by the spring E, and the coupling made perfect; the cars cannot be separated, until one or other of the levers, D, is borne back, as shown in Fig. 2—when the bar may be withdrawn.

C, in Fig. 1, is a cylinder revolving on a pin, so that the bar, A, meets with no resisting body when the coupling is made.

One of the objects of this coupling is to save labor, and avoid accidents, in coupling a train of cars.

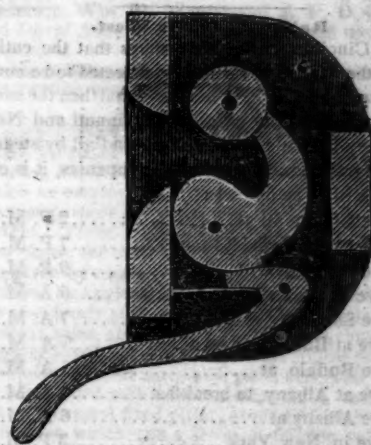
If we may be allowed to form an opinion from a model—without witnessing its operation in practice, which we often do, though seldom express it in a very confident manner without additional evidence—we should say that the principal merit of this apparatus will be found in the facility with which the after cars can, and will, be disconnected if the engine or leading car should be thrown from the track.

It will be observed that the levers D are so placed that it matters not on which side of the track the engine is thrown off, one of them is brought, by the angle, to bear against the end of the platform, or buffer, by which it is thrown out of gear, the bar A is withdrawn from the box, and the after cars remain on the track.

There may be some practical deficiencies in the working of this coupling which we do not discover, but a trial of it was made, we are informed, upon the Baltimore and Washington railroad, some time since, which gave satisfaction; and practical men to whom it has been shown, think well of it.

We hope to see it put in use soon on some of our principal railroads, that it may be thoroughly tested, and, if found what it is represented, it should be brought into general use. The model may be seen at our office.

Fig. 2.



Little Miami Railroad Report for 1847.

We are indebted to WM. H. CLEMENT, Esq., superintendent of this road, for their last annual report. It will be seen by this report that the connection between this and the Mad river road will be made in May next, when there will be much rejoicing among the people of Ohio.

The road also from Columbus to Xenia has been commenced, and will be prosecuted with spirit; and a portion of the Little Miami road will be relaid, and a part of it with double track, when the shareholders may anticipate a large increase in their business, and liberal returns on their capital invested.

We shall re-publish this report in our next, nearly entire.

Railroad Reports.

We have several reports on hand, which we will publish in course—and among them the Massachusetts annual, and the Reading, reports.

Charlotte Railroad.

The contracts on the Charlotte railroad, the Columbia Carolinian says, for about 16 miles, have been let upon the estimate of the value of the work by the engineers. This looks flattering. Go ahead.

Another Railroad in Massachusetts.

The Northampton Gazette says that a meeting is to be held at Greenwich, on the 15th inst., to take measures for surveying a railroad route, from Palmer depot, up the valley of the Swift river, through Enfield and Greenwich, intersecting with the Vermont and Massachusetts railroad at Athol or South Orange.

Liability of Railroads.

"In the Supreme Court of this State, says the Scientific American, held two weeks ago in the case of Stoddard & Lovering, of Boston, vs. the Long Island railroad company, to recover damages sustained in 1846, by four cases of silk goods sent from New York by Adams & Co.'s Express, in the steam boat New Haven, belonging to the defendants, and injured by the express crate containing the goods being accidentally thrown into the dock at Allyn's point. Judge Vanderbilt held that the defendants were not liable as common carriers the goods being under the exclusive care of Adams & Co., but that the jury might pass on the question of neglect or carelessness on the part of the agents of the railroad company. The jury give a verdict for the plaintiffs, of one thousand four hundred and thirty-six dollars, being principal and interest."

This arose, probably, from imperfect arrangement at the landing, for transferring the crates from the boat to the shore—and shows the necessity of proper care on the part of railroad companies.

Railroads in the West.

The Cincinnati Chronicle states that the entire line of the Mad river railroad is expected to be completed by the 1st of May next, and that then the summer trip between the cities of Cincinnati and New York may be made in three days—and all by steam. The programme of the railroad companies, it is expected, will be as follows:

Leave Cincinnati at..... 2 P. M.
Arrive at Springfield, to sup..... 7 P. M.
Leave Springfield at..... 9 P. M.
Arrive at Sandusky, to breakfast..... 6 A. M.
Leave Sandusky at..... 7 A. M.
Arrive at Buffalo, to breakfast..... 5 A. M.
Leave Buffalo, at..... 6 A. M.
Arrive at Albany, to breakfast..... 4 A. M.
Leave Albany at..... 6 A. M.
Arrive in New York..... 3 P. M.

This makes three days and one hour! The traveler would arrive at Boston in three hours longer.

Railway Robbery.

A robbery was committed in one of the Great Western railway cars on the 10th of January, under rather peculiar circumstances. It was a box of coin of £1500. The box was strapped with iron, delivered by a special messenger and placed in a compartment of the car next the guard—who said, "all right, I'll take care of it"—and behind was another compartment in which were four or five well-dressed men, some of whom got in at Paddington. They alighted at different stations on the line; and upon the arrival of the train at Bristol, it was found that the box above mentioned, after being taken out, forced open, and emptied of its contents, had been replaced in its original position. No implement by which the plunder might have been effected could be found. Information of the occurrence was com-

municated to the principal officers. Billing, the guard, was given in custody.

American Enterprise.

A St. Petersburg letter of the 2d of January, says, "The American firm of Harrison, Winans & Eastwick, the well known contractors for the cars and locomotives on the St. Petersburg and Moscow railway, have obtained the contract for the new iron bridge across the Neva. Another enterprising American firm have obtained an exclusive privilege of cutting ice for foreign markets, and are rapidly constructing a pier, ice houses, etc., between St. Petersburg and Cronstadt."

**For the American Railroad Journal.
Horse Power.**

The editorial request made some months since, in your paper, in relation to the horse power of the steamer Washington, (now running between the city of New York and Bremen,) not having been answered, I beg to say that with many others of your readers, I was much amused with the flourish which the proprietors of that ship made in their published statement of her two thousand horse power; and with you, felt some little curiosity to know how such calculations of power could be sustained—having considered the matter, however, I come to the following conclusions, viz:

That steamers are sometimes rated according to what is called "nominal horse power," which is determined by the following rule: multiply the square of the diameter of the cylinder in inches, by the velocity of the piston in feet per minute, and divide by six thousand. This rule evidently makes no account of pressure of steam, consequently might be applicable to the English boats, at an assumed pressure of three pounds to the inch, but would not be correct in an American boat carrying twenty pounds per square inch. Hence the rule for determining the nominal horse power does not determine the actual power. If the Washington carries steam enough, and her piston moves fast enough to work two thousand horse power, why scruple to call it the actual, rather than the nominal horse power? One horse power, according to Mr. Trott's rule, is a power that will raise 33,000 pounds one foot high in one minute. If the Washington's power can be determined by this rule, the result will be her actual power in horses. Nominal horse power is readily ascertained because it is calculated from two circumstances only. Actual horse power is more difficult to determine, because every circumstance must be taken into account—such as pressure of steam, expansion, friction, velocity, etc. FULTON.

Railroads in Ohio.

The Cincinnati Gazette, of 9th instant, says that about one hundred tons of railroad iron have been sent up on the Little Miami railroad, within a few days, from McNickle's foundry across the river. It is part of a contract for 500 tons, which will be sent up as fast as wanted. It is intended for the Mad river railroad, and will form the connecting link of a railroad communication through from Cincinnati to lake Erie. This route will be opened in a few months, when it will prove the great thoroughfare from that city to the east. In anticipation of the expected increase of travel, these two roads have now under contract twelve large and splendid passenger cars, fitted up with spring seats, and luxuriously cushioned, and completed with all the improvements of the best eastern railroads. They are now in the hands of Keck & Davenport, near Cincinnati.

The editor of the Springfield Republican also, in referring to this subject, says, "In a recent walk, we

observed that wonders had been done during the winter by these enterprising contractors. The bridge and heavy fill about two miles northeast of town, are in a state of advancement, and when these are finished, the worst is over. We think the iron will be on by the 1st of June at farthest."

We look with much interest for the opening of railroad communication between Cincinnati and the lake. It will be an era in the history of the west, and we hope to be in at the christening.

Railway Station, Euston Square.

The new building—the scene of the late accident—now constructing at Euston Square, consists of an elaborate vestibule for passengers, 120 feet long, by 60 feet wide, and 55 feet high. It is from a design by Mr. Hardwicke, and will, at a cost of some 70,000*l.*, in addition to the grand passenger hall, contain booking offices, clerks and secretaries' offices, board rooms and rooms for passengers and luggage. The booking offices will be right and left of the great hall, which will be lighted from above, and decorated. It will take nearly twelve months to complete it.

Opening of the Canals.

The following extract from the minutes of the canal board, show that the canals will be opened for navigation at an early day:

Canal Commissioner's Office.
Harrisburg, Feb. 25, 1848.

Resolved, That the several lines of the public works be opened for navigation as follows:

The Delaware division on the 1st of March next,
The Main line, (from Philadelphia to Pittsburg,) on the 10 of March.

The Susquehanna, and North and West branches, on the 15th of March,
Extract from the Journal.

THOMAS L. WILSON, Secretary.

Correspondence of the Commercial List.

Hamburg, Berks Co., March 1st, 1848.

This day, the water is being admitted into the several levels of the Schuylkill Navigation upon the whole of the upper division, extending from Port Carbon to Althouse's, 31 miles below the head of navigation, and by Sunday next, the 5th inst., this part of the canal will be in complete navigable order.

The powerful gales of wind within a day or two, have broken the ice very much, and what little remains in the outlet canals will be broken and removed if necessary.

The remainder of the line may probably be delayed a week longer, but by the 15th instant, the entire canal will be ready for the passage of loaded boats. M.

Influences of Railways on Other Property.

"We were enabled," says the *Gossip of the Railway Chronicle*, "to give in our last number the first of a series of returns, showing the progress of the Grimsby docks, which our readers know are now the property of the Manchester, Sheffield and Lincolnshire company. The increase of the port dues is most remarkable. The dues last year were above £70,000—more than double those of 1846 (32,000*l.*); more than six times those of 1845; nearly twelve times those of 1844; and about eighteen times those of 1843. This enormous increase has taken place, not from any greatly increased facilities, but merely in anticipation of the advent of the railway to Grimsby. The purchase of the docks was a most fortunate one for the company; even now it is estimated that it is paying above 64 per cent.: yet some people even wondered why a railway should go to Great Grimsby, and of what use it was to be when it got there. The answer will be a very practical one in bales of cotton, twist and Baltic timber. The new docks will be second in size to none in the kingdom. They are situated at the mouth of the Hum-

ber, and will be candidates for a great part of the shipping which now proceed twenty miles up the Humber to Hull. This short passage is often tedious, and always dangerous. Last week there were as many as 1,300 vessels lying between Grimsby and Spurn Point waiting for wind and tide to proceed northwards. The boats came up to the springs for fresh water, which abound at the mouth of the Grimsby docks, in such numbers that they resemble, says our correspondent, 'minnows in a pool.' Oftentimes from 300 to 600 vessels take shelter here; but 1,300 is so unusual a number as to merit a notice of the fact."

New Railroad Wheel.

The Scientific American says that "Mr. Alfred Judson, of Rochester, N. Y., has invented a railroad wheel, which promises to be of great utility. It has heretofore been found necessary, in casting car wheels, to divide the hub longitudinally into three parts, in order to provide for the contraction of the metal in cooling, and in completing the wheel, to fill the opening in the hub with zinc, and securing each end with heavy wrought iron bands. The plan adopted by Mr. Judson consists in separating each spoke or arm near the rim, by making a part of it form a hollow cylinder, of four inches in diameter, the length of which is equal to the width of the arm, and of equal strength, the arm being separated at the point where the cylinder unites with it. The consequent elasticity of the cylindrical portions allow the wheel to contract without fracturing in cooling, while the simple insertion of a bolt, where the separation is made, gives to the wheel full strength and solidity. The Auburn and Rochester railroad are about introducing this improvement, and favorable opinions are entertained in regard to it. We expect to be able to present a cut and more full description of Mr. Judson's valuable invention in a future number. Measures have been taken to secure a patent."

We do not comprehend this description of the Scientific American, but we can refer the editors to a cast iron plate wheel made here in Philadelphia, by Messrs. A. Whitney & Son, without any opening in the hub—which cools without any strain upon any part of it from shrinking.

Rotary Pumps.

Ewbank says, in his admirable work on Hydraulics, that "rotary pumps have never retained a permanent place among machines for raising water;—they are as yet too complex and too easily deranged to be adapted to common use. Theoretically considered they are perfect machines, but the practical difficulties attending their construction have hitherto rendered them, (like rotary engines) inferior to others. To make them efficient, their working parts require to be adjusted to each other with unusual care and accuracy, and even when this is accomplished, their efficiency is, by the unavoidable wear of those parts, speedily diminished or destroyed;—their first cost is greater than that of common pumps, and the expense of keeping them in order exceeds that of others; they cannot, moreover, be repaired by ordinary workmen, since peculiar tools are required for the purpose—a farmer might almost as well attempt to repair a watch as one of these machines. Hitherto a rotary pump has been like the psalmist's emblem of life: "Its days are as grass, as a flower of the field it flourisheth, the wind [of experience] passeth over it and it is gone." Were we inclined to prophecy, we should predict that in the next century, as in the present one, the cylindrical pump will retain its pre-eminence over all others; and that makers of the ordinary ones will then, as now, defy

all attempts to supersede the object of their manufacture.

Railroad Iron made in the United States.

The Rochester Daily Advertiser recently made the following remarks in relation to the manufacture of railroad iron in this country.

"Five years ago it was generally supposed that all the railroad iron used in this country must come from England. There was no escape from it. The iron mongers of Great Britain watched with a critical eye every move made towards building new roads. They congratulated themselves on the extension of such lucrative customers. The London Times was in ecstasies at the prospect of the future in supplying our go-ahead people. They counted on a billion of dollars from the Yankees for the article. Their ore beds increased in value; speculations took place in the iron districts; capitalists bought up much iron ore land. We have sent on hundreds of thousands to them for it. But the tables are now turning. In 1844, the first bar of railroad iron was manufactured in the United States. Since then, establishments have been erected for the business until we number 16, located as follows:

8 in Pennsylvania.	1 in New Jersey.
2 in Maryland.	1 in Rhode Island.
2 in Massachusetts.	2 in Connecticut.

"They make 119,000 tons per year, equal to 2,268 tons weekly, or 382 tons daily. A heavy track takes 90 tons. Enough is manufactured in the United States to lay four miles a day, or twelve hundred miles a year."

It is sad to reflect how great a change has taken place in this business within a few months. A majority of these mills have ceased operations, and thousands of men employed in them at good wages are now idle; and in this change no state participates more fully than Pennsylvania. Several extensive works have ceased operations beside the Monrovia, of which the Danville Democrat says:—"The Montour rolling mill, at this place, suspended operation on Saturday last, their contracts for railroad iron having all been filled. No new contracts can be made under the present state of the iron trade, because foreign rails are now offered and poured into this country at a price so low as to prevent competition from our manufactures. A large number of hands have thus been thrown out of employ. All this is the legitimate result of the *ad valorem* tariff of 1846. For the last two or three years, the demand for iron in England has been very great, and prices correspondingly high, which enabled our operators to go on, and do a profitable business, as they were not compelled to compete with the European prices; but as soon as a revulsion took place in the foreign market, iron fell in price, and under the principles of our abominable tariff, the duty lowered in the same ratio, so much so as to allow English rails to be sold in this country at the present time for something like forty-nine dollars per ton—a price at which it cannot be manufactured here, under the present state of wages, cost of material, etc. When we need protection most, under this system of revenue laws, we have the least of it—and thus the foreign manufacturer is enabled to pour in his iron to the great disadvantage of our own industrious citizens."

Here is another evidence of the kind fostering care, by our rulers, of the laboring men and their families. The Boston Courier says that "the Rutland and Burlington railroad company, having cancelled their bargain with the late firm of Horace Gray & Co., have engaged with the agent of an English house, to furnish the iron for their railroad at fifty-three dollars per ton, deliverable either at Boston or New York, freight and insurance included. By this arrangement, a saving of \$100,000 is made by the company."

We should make more railroads in this country with American railroad iron at sixty-seven dollars per ton than with English iron at fifty dollars!!!

We are pleased to see the following:

"*Domestic Iron Trade.*—The recent movement of the iron and coal producing interests of Pennsylvania has led to a similar one in Virginia. We learn from the Richmond papers that at a meeting of citizens of Richmond and the adjacent counties, interested in the production and manufacture of coal and iron, held at the Columbia hotel, on the 8th March, 1848, for the purpose of taking into consideration the present suddenly depressed condition of the iron and coal trade of this country, and of appointing delegates to the convention of iron masters and coal miners, to be held at Harrisburg, in Pennsylvania, on the 22d instant—the following resolutions were unanimously adopted:

"*Resolved*, As the opinion of this meeting, that the prosperity of the iron and coal trade, since the passage of the tariff of 1846, has resulted from purely accidental and temporary causes, and that these causes ceasing to exist, these highly important interests are now seriously threatened with all the calamitous consequences naturally incident upon a system of low *ad valorem* duties—a system affording protection when foreign demand absorbs foreign production, and renders protection superfluous, and abandoning our domestic interests to a hopeless competition, when a lessened demand and an over production abroad flood our market, at prices having no reference even to the cost of production.

"*Resolved*, further, As the conviction of this meeting, that fixed specific duties are indispensable to the security of the iron and coal traders of this country.

"*Resolved*, That the chairman be requested to appoint seven delegates to represent this meeting in the convention of iron masters and coal miners, proposed to be held at Harrisburg, in Pennsylvania, on the 22d inst., and to confer and co-operate with that body in such measures as may be deemed expedient.

"And Holden Rhodes, A. S. Wooldridge, Jos. R. Anderson, Wm. H. Macfarland, A. F. D. Gifford, and David Anderson, Jr., were appointed under this resolution.

"On motion, made and seconded, the chairman of this meeting was added to the delegation."

Hydrostatic Turn-tables.

Mr. Allen, of Crewe, says the London Mining Journal, has taken out a patent for a turn-table, in which he employs the hydrostatic pressure of fluids for the purpose of supporting the superincumbent weight. These tables are constructed of wrought iron plates, the necessary strength and stability being given by numerous vertical ribs of iron plates, attached by angle-irons, to the lower edges of which are also firmly attached, by angle-irons, bottom and circular sides, also of wrought-iron plate, thus forming a hollow water tight box. This hollow platform is supported in the turn-table pit or reservoir by the pit being filled with water or other fluid, and revolves on a central fixed pillar, around which is a projection, on which run a series of friction rollers.—The turn-table pit or reservoir is filled with water or other fluid, just sufficient to sustain, without any deflection of the platform, the maximum weight of the locomotive engine or the carriage, which may, at any time, pass over the turn-table. The height of the surface of the water in the pit being once ascertained and adjusted proportionably with the maximum weight, it is then constantly maintained by a ball cock, attached to a supply pipe, from a cistern above. On the platform are three separate lines of rails abreast, and these are crossed at right angles by three other sets of lines, by which means one turn-table is sufficient to perform the work and effect the transfer of a locomotive engine or carriage from one to the other line, for which, with turn-tables as usually constructed and arranged, two are required; the new one is also worked with considerable economy. The pit or reservoir is formed of masonry or bricks, laid in cement, water tight, having a sufficient firm and stable foundation, on which the centre pillar can be properly supported, the object of which, and the friction rollers, being to reduce to a minimum of the friction caused by the upward pressure of the platform upon the plate or head of the central pillar. A cast iron rib is fixed on the top of the sides of the reservoir being cast in seg-

ments and bolted together, the circular edge of which is brought in contact with the outer edge of the platform, which thus revolves flush with it. By the arrangement of the rails, as adopted by the patentee, a locomotive engine or carriage may be transferred from one line to another by a semi-revolution of the turn-table.

Artificial Stone.

A paper was read before the Institution of Mechanical Engineers, London, January 11th, descriptive of Mr. F. Ransome's process of making artificial stone.

"The *modus operandi* appeared to be simple. Broken pieces of silica (common flint) being subjected for a time to the action of caustic alkali, boiling under pressure in a close vessel, formed a transparent silicified solution, which was evaporated to a specific gravity of 1.600 (distilled water being 1.000,) and was then intimately mixed with given proportions of well washed sand, broken granite, or other materials, of different degrees of hardness. The paste, thus constituted, after being pressed into moulds, from which the most delicate impressions were readily received, were subjected to a red heat, in a stove or kiln, by which operation the free or uncombined silica of the raw material, united with the excess of alkali existing in the solution, thus forming a semi-vitreous compound, and rendering the artificial stone perfectly insoluble. This production must evidently be adaptable to a comprehensive range of objects for decorative art and architectural purposes, busts, vases, flooring, tiles, steps, balustrades, mouldings, capitals, shafts, and bases of columns, etc. Even grinding stones and whet stones for scythes have been made—and in fact, from the beauty and variety of the specimens exhibited, there would appear to be a vast field open for such a production. It was stated to be already extensively manufactured at Ipswich, and it was allowed to admit of extensive application where elaborately carved stone would be too expensive."

Railways a Cause of Distress or Prosperity.

The Editor of the Railway Chronicle says that Mr. Truck has presented the public with another edition (the ninth) of this compendious and useful railway manual; and in the preface he exposes the fallacies of the anti-railway cry, and thus argues in behalf of the service for whose especial use his book is composed:

"Instead of railways being the cause of national distress, they are an element of prosperity, a source of national wealth, a means of existence to tens of thousands of the people. By the population returns, it is shown that we increase at the rate of 400,000 a year, or upwards of 1,000 a day, and where can this increasing and superabundant population find subsistence except in railway operations? The land does not employ one more laborer than it did fifty years ago; and every branch of manufacture, trade or commerce is already greatly overstocked. In railway occupation only can this additional quantity of laborers be absorbed, which has opened a fresh field of enterprise, a new source of wealth, not in distant inhospitable regions, but within our own country, where every shilling expended returns back to the trader, in exchange for food and clothing. By a return ordered by the house of commons to be printed, it appears that the number of persons employed on railways open for traffic in the spring of the present year was 47,318, and on railways in course of construction 256,509, making a total of 303,727. If this be multiplied by five—the average number of a family—we have the enormous quantity of 1,518,635 persons subsisting by railway employment? If to these be added all those engaged in the construction of locomotives, carriages, rails and articles required for the carrying stock and working expenses of railways, we shall find a larger number of persons employed on railways than is to be found in the manufacture of the textile fabrics of cotton, woolen and silk, or in the great staple of iron and hardware.—By a parliamentary return, it appears that 43,790,933 persons travelled on 63 railways in the course of a year ending June, 1846. Since that period, the traffic has greatly increased on the old lines, and many branches have been opened. The opponents of the railway system have to show how this busy inter-

course can be carried on except by railway locomotion. They will hardly contend that it could be accomplished by any of the old modes, or by canal, stage coach, broad wheel wagon, or pack horse united."

Mr. Truck understands the subject of railways and their influences.—[Ed. R. R. J.]

Allegheny Portage Railroad Report for 1847.—By Thomas J. Power, Superintendent.

In this number of the Journal we conclude the Columbia railroad report, and also give that of Mr. Power, showing the business operations, receipts, and expenditures for the year 1847.

This road is different from all other railroads in use, either in this country or in Europe, being only 36½ miles in length, passing over the Allegheny mountains, by ten inclined planes, and connecting the business of the canal from Pittsburg to Johnstown, on the west, with that of the canal from Hollidaysburg to Columbia on the east side, and thence to Philadelphia by the Columbia railroad, and to Baltimore by the Susquehanna, York and Wrightsville railroad.

These inclined planes are worked by stationary power, and mostly, we believe, with wire rope manufactured by Mr. J. A. Roebling. The levels between the planes are mostly worked by horse power, thus requiring three different kinds of power within thirty-seven miles, which is, of course, very complicated and expensive.

The system of portable boats used on this line, requires a heavy outlay, and is very destructive to the road, yet having been adopted, cannot well be dispensed with.

REPORT.

To the Board of Canal Commissioners of Pennsylvania:

GENTLEMEN:—I herewith transmit the operations of the Allegheny Portage railroad during the past season. The road opened for business on the 11th day of March, and continued in operation until the 7th of October, when business was suspended for one week, (except the transit of passengers,) in consequence of the flood having destroyed two stone viaducts of forty span each, over the Conemaugh, and the boat slip at Hollidaysburg. The track was carried away at the foot of planes 7 and 8, and the road was materially damaged at several other points. Temporary structures were put up at the viaducts, the track repaired, and the road reopened on the 14th, and was kept in operation until the 26th of November. After the flood, the motive power expenses were reduced as much as possible; yet the road could have done a heavy amount of business at a small additional expense to what it actually cost.

I deemed it my duty to open the road after the flood, for the purpose of accommodating the local business of the community, and to pass goods that were caught on the way at the time.

Notwithstanding a large amount of trade was diverted from the road in consequence of the disasters to the canals, the tonnage and receipts show a handsome increase of former years.

When I took charge of the road, on the 20th February, arrangements had been, and were being, made for putting locomotives on four of the short levels, viz: between planes

2 and 3, 3 and 4, 5 and 6, and 8 and 9, where horse power had been formerly used. To carry out this arrangement, would have required fifteen locomotives that could be relied upon, and at least four for extra; there were but fifteen on the road in all, and two of these were undergoing repairs in the depots, and could not be got out for several weeks after the opening of the road; three were to be sent from the Columbia road on the opening of navigation; there were but two sent, and they did not arrive until the 6th of April, and then in very bad condition, not being in running order, defective in every particular, and requiring heavy repairs before they could be put on the road. The "Kentucky" broke down immediately after the road opened. The water stations and sidings on these levels were not in any case perfected, and the engines had to pass down one, and sometimes two planes, to receive water. Under these circumstances, it became imperative to change the whole arrangement, which had to be done on the eve of, and after, the opening of the road, at a great disadvantage to the commonwealth, as I was compelled to pay unusually high rates for horse power. Many of the contractors for horse power at the head and foot of the planes abandoned their contracts early in the season, and some of them never commenced work; but few of the contractors for wood and sawing had filled their contracts, and they had to be procured at prices considerably higher than had been contracted for, all of which has tended to swell the motive power expenses. Yet this department has sustained itself, and yielded a profit to the commonwealth of \$57,426, as will be seen in tabular statement No. 1.

The receipts for motive power and for the use of trucks, amount to \$181,711 21, and the entire expenditures for motive power, ropes, trucks, boat slip engines, passenger cars, improvements in depots, and increased value of stock of materials for motive power is \$146,388 27½, which leaves a balance of \$35,322 93½; to this balance may be added present value of new trucks, slip engines, improvements to machinery in depots, and increase in value of materials for motive power, \$27,262 28, which would leave a clear earning of the road in these departments of \$62,585 21½, as will be seen by reference to tabular statement No. 1.

There were fifteen locomotives on the road last spring; eight of them could be depended upon; five others were in running order, and two of the same class undergoing repairs at the depots; to this number has been added the two very defective ones from the Columbia road. This number would be sufficient for the business under the present arrangement for horse power on the short levels, were the engines all to be depended upon; but of the seventeen, only eight can be entirely relied upon. Seven are so much worn as to render them uncertain, and require heavy repairs, and two are not worth keeping up under any circumstances.

There should be at least two new locomotives had for this road in the spring, as with the old ones we will frequently be compelled

to employ temporary horse power, while the engines are undergoing repairs.

The boiler of the "Bush Hill" exploded on the 23d of April, rendering her entirely useless for the balance of the season. The particulars were reported to the board at the time.

STATIONARY ENGINES.

Six of the engines were taken up during last winter for repairs, viz: at planes 2, 3, 6, 7, 8, and 9. Four of them had not been replaced when the road opened; at two of those planes, viz: 2 and 8, the boilers of the engines that had to be used were so defective that the business was frequently retarded while they were undergoing repairs; and they could not at any time be worked to more than half their capacity with safety. New boilers are being made for these planes. Several of the other engines were in extremely bad order, and I employed a competent workman, and gave him charge of their repairs, as the business of the road was so heavy as to prevent the engineers at the planes from doing them. During the coming year new stacks will be required at planes Nos. 1, 7, and 8, and the foundations of the furnace and boilers at plane 8 will have to be renewed. New bed timbers will be required at planes 3 and 5, and the foundation and bed timbers must be renewed at plane No. 9. At No. 7 one set of new cylinders are required; and new side pipes to the east engine at plane 1. Four double groove sheaves will be inserted for the purpose of receiving the wire ropes; all of which will be had in readiness in due time.

ROPES.

I found several of the ropes for the planes very defective, so much so as to materially retard the business in the early part of the season, and to require the riggers to be almost constantly on the planes for the purpose of splicing, to prevent accidents. A contract had been entered into for four wire ropes, to be delivered at the opening of navigation, but the contractor informed me that he could not have them in readiness; and I immediately ordered three hemp ropes, and eight hundred feet for splicing, which was promptly delivered, but owing to the great scarcity of hemp, ropes of the best quality could not be had. Four new wire ropes had been put upon the road during the season, viz: at planes 3, 6, 8, and 9. And others have been ordered for next year, for planes 1, 2, 4, 5, and 10; the one for No. 5 has been delivered, and for No. 1 is completed, and will be delivered during the winter. The others will be made and ready to ship at the opening of navigation. They would all have been delivered during the fall, but the flood prevented the contractor from getting his wire in time. There is one new hemp rope on hand, which was purchased late in the season, for fear the wire ones might not arrive. This one will be put upon plane No. 10 in the spring, until the wire one arrives, and afterwards kept for an extra.

The amount expended for hemp ropes is \$9,364 08; for wire ropes \$10,900 84, making in all \$20,264 92, all of which has been

paid. The cost of ropes for planes Nos. 1, 2, 4, 5, and 10, will be \$12,500, being \$8,400 less than was paid this year.

TRUCKS.

There were seventeen sets of trucks at the opening of the road, four of these were built at the Johnstown depot during the past winter, one set was undergoing repairs, leaving but sixteen set for the commencement of business. This I found to be entirely too small a number to meet the demands, and I immediately had two sets built in the depot at Hollidaysburg, and got two sets built by Messrs. Smith & Crouse. These were all had early in the season. There is now one additional new set at Hollidaysburg that has not yet been used, and two sets nearly completed at Johnstown, and will be ready for spring business. There is a sufficient quantity of material on hand to complete those at Johnstown, and to put all the others in as good order as they will admit of, and have a full supply of extra wheels and axles to be distributed along the road to meet emergencies. There will be twenty four sets in the spring, viz: three new sets, four built during the summer, four built last winter, and thirteen old ones. This number will be sufficient to meet the demands, as they will all be put in good order by the opening of navigation. Engines were put up at the boat slips during the past winter, at a cost of \$2,572 89.

The expense in this department has been unusually heavy. This the business demanded, unless the system is to be abandoned, which would be ruinous to many persons who have invested their all in section boats, and injustice to all that have embarked in the trade, under the assurance from the commonwealth that they would be furnished with the necessary facilities for the transit of their boats. The system bears heavily on the motive power and repair departments, on account of the weight of the boat, (about twenty-seven thousand pounds,) that pays no toll; something should be charged for this, and be properly distributed between the motive power and road toll. To this I think the boatmen would not object, if a full supply of trucks be kept, as the delays for want of trucks have cost them more than the additional toll that would be required.

For the expense of system, see statement No. 2.

PASSENGER CARS.

There are three large class passenger cars and two small ones, and two baggage cars on the road. Two of the large cars have been run constantly during the season, and the other one and the two small ones have been used as extras. One of the large cars is in tolerably good order; all the others are old and dilapidated, and cannot be considered entirely safe; they have required heavy repairs to keep them in order during the season. I most earnestly recommend to the board that one new one be ordered immediately, that it may be put on early in the spring.

The receipts during the year amount to \$17,269 99, and the expenditures amount to \$2,603 08. For detailed account of expenditures, see statement No. 3.

DEPOTS AND MACHINE SHOPS.

The machinery, tools, etc., in the depots, I found to be entirely inadequate to the amount of business required to be done therein; so much so that a portion of the work had to be done elsewhere, and at great inconvenience and delays, as it could not at all times be had when most required. To obviate this difficulty, I had new lathes, bending machine for boiler iron, and other improvements made at a cost of \$1,890 88.

The amount of tonnage which passed over the road during the year is 347,757,300 lbs., being an increase of 55,940,800 pounds over last year. The amount of motive power tolls, and tolls for the use of trucks, is \$181,711 21, showing an increase of \$41,071 46 over last year. The amount of railway tolls collected is \$48,949 67, being an increase over last year of \$2,911 63.

The system of maximum tolls prevents me from showing the actual railroad toll, as a large portion of it is collected at Philadelphia, Columbia, Pittsburgh, and other points.

The motive power expenditure were as follows:

Amount prior to the 20th February	\$10,223 33
Amount after the 20th February	136,164 94

Total expenditures, (repairs excepted)	146,388 27
Amount paid by my predecessor	\$2,019 34

Amount paid by me	118,426 33
	120,445 67

Balance	25,942 60
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REPAIRS.

I found the road very much out of repair; the track was so much so as to render it difficult to keep it in such order as to enable the engines and cars to pass over it with any degree of safety, or at sufficient speed to facilitate the business. The ditches, drains, and culverts were filled with wash from the mountain side, to such an extent as to force a considerable portion of the drainings over the bed of the road, thus keeping the foundation of the superstructure constantly saturated with water, and rendering it impossible to keep the track in proper adjustment. On the planes the side ditches were filled, which forced the water on to the tracks, and down the face of the planes, to their great injury. I immediately employed a large force, and gave the foreman instructions to have the obstructions removed as soon as possible. Many of the worst places in the track were taken up and new timbers inserted, and the whole superstructure put down in a permanent manner. The whole condition of the track has been much improved, though it is not yet in such order as it should be, nor can it be made so, unless a quantity of new iron be had. There is not a spare bar on the road, and many of the bars are so much worn that it is no unfrequent occurrence for them to break.

The track has been kept up for several years, by taking the iron from the sidings, and the tracks at the lower end of the basins at Hollidaysburg and Johnstown, all of which should have been kept up, instead of being thus dismantled; but the want of funds has left the superintendent no other alterna-

tive. At least twenty tons of new iron should be had for keeping up the main track, as it will be almost impossible to keep the road open without it.

I would also recommend that a quantity of heavy rail be had for the purpose of laying the ascending track on planes 6 and 7. The flat bar was used on the planes in the original construction of the road, and they have become so much worn and broken as to require heavy expenditures to keep them in order. The bars are worn so thin that the weight of the cars destroys the timber under them long before it would decay, and to replace it causes frequent delays at the planes, which renders it necessary that much of this work should be done at night.

The cost of laying planes 6 and 7 with the heavy rail, would be \$8,600. The repairs on the ascending track of these two planes cost about \$800, while the interest on the cost of the improvement, and the expense necessary to keep it in order will not exceed \$600.

This improvement would enable the stationary engines to do a much greater amount of work, and materially reduce the wear and tear to the ropes and machinery.

This improvement has been strongly recommended by my predecessors, and the time has now arrived when some such improvement must be made, as the road cannot be much longer kept open without it. I purchased fifteen tons of the flat bar during the season, for the purpose of keeping up the planes until this improvement could be commenced. By laying two of the planes in this way each year, the whole would be completed in five years. It would have been much better had this work been commenced several years ago, as it will be difficult now to keep the road up until the work can be done.

The foundation of the road on the steep hill side between planes 3 and 4 has been giving way for several years, which rendered it very dangerous. I have had a portion of it permanently secured by a heavy cribbing put down near the creek, and the balance will be made secure as soon as possible.

The culvert at the foot of plane No. 6 gave way during the summer, and has been permanently repaired.

A new foundation was put under the dwelling at the head of plane No. 6; this was necessary to prevent the house from falling. There has been ninety-eight tons of castings put into the road during the season. This was necessary, as many of the castings in the road were worn out and broken in such a manner as to cause great damage to the locomotive and cars. There has been six thousand two hundred and fifty locust ties, thirty-three thousand and ninety feet of string timber, and three thousand fifty feet of mud sill inserted, and about eighteen thousand feet of water pipes laid during the year.

The heavy slope wall at plane No. 7 is giving way, and requires protection which is now being made.

The whole amount of expenditures for repairs during the season are as follows:

For ordinary repairs	\$28,532 86
For extraordinary repairs, (damage by flood, etc.)	10,299 97
	39,132 83

Amount paid by my predecessor	\$746 37
Amount paid by me	22,738 69-23,485 06

Leaving a balance unpaid of	15,647 77
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NOTE.—There has been \$2,764 31 worth of old metal, scraps, ropes, etc., sold, all of which have been credited on the proper bills.

The culvert under plane No. 1 has given way, and will require to be repaired during the coming season; also, one of the culverts on the Hollidaysburg level. A new turning platform will be required at the tunnel.

The engine sheds at the head of the planes are many of them in such bad order that they will not protect the engines and machinery from the weather, and will require considerable repairs. The dwellings for the engineers and hitches, should also receive some repairs to keep them from going to destruction.

An estimate for these repairs is appended in tabular statement No. 5.

The road was very materially damaged by the flood of the 7th of October, an estimate for the repairs of which was reported to the board; to which estimate should now be added \$2,000 for work that was partly finished and destroyed by the flood of the 24th of November.

There has been expended on this work for labor and materials \$5,058, which remains unpaid, and is covered in the estimate for repairing the damages by flood. This work will be in readiness for the opening of navigation. See statement No. 5.

The machinery on this road is so various and complicated, and there are so many different changes necessary in the transit of cars from one kind of power to another, that unless all is put in, and kept in good order, the business must be subject to frequent and vexatious delays. I have made every effort in my power to have the machinery so improved, and have so far succeeded that I think there will be but little cause for complaint during the coming season, which improvements have tended much to swell the expenses of the past year. Respectfully,

THOS. J. POWER, *Supt of Motive Power, and Supervisor of Repairs, Allegheny Portage Railroad.*

December 1, 1847.

INDEX TO TABULAR STATEMENTS.

No. 1 exhibits the operations of the different departments.

No. 2 exhibits the receipts and expenditures of the truck system, and estimate of expenditures for 1848.

No. 3 shows the receipts and expenditures of passenger cars.

No. 4 exhibits the entire expenditures of the road for 1847, and estimate for 1848.

No. 5 exhibits the estimate of amount required for repairs for 1848, and to pay debts due on repairs, 1847.

No. 6 exhibits the total receipts and expenditures of the road during the fiscal year '47.

No. 7 exhibits the superintendent and supervisor's account with the State treasurer.

STATEMENT No. 1.

Exhibits the operation of the road in the different departments for the year terminating 30th November, 1847.

Tolls received for motive power	\$155,117 70
Motive power, wheel toll on trucks, & for use of trucks	26,593 51

Total receipts in motive power department	181,711 21
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EXPENSES.

For direct motive power	\$86,931 60
For ropes	20,264 92
For trucks, slip engines, etc.	29,049 28
For passenger cars and agents	2,603 08
For increase in materials on hand, for mot. power.	5,648 51
For improvements to machinery, etc., in depot.	1,890 88-146,368 27

Difference in favor of motive power & trucks, including whole expenses.	35,322 93
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Add for new trucks, slip engines, and materials for trucks	19,722 89
--	-----------

Increase of stock of materials for motive power	5,648 51
---	----------

Additional machinery, tools, etc., at depots	1,890 88
--	----------

Profit in motive power and truck department	62,585 21
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MOTIVE POWER DEPARTMENT.

Motive power tolls for the year	155,117 70
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Motive power wheel toll on trucks	12,107 90
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Direct motive power expenses	86,931 60
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Ropes	20,264 92
Passenger cars	2,603 08
	169,799 60

Balance in favor of motive power.	57,426 00
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REPAIR DEPARTMENT.

Amount of railway toll for the year.	48,949 67
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Expended for ordinary repairs	\$28,532 86
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Extraordinary, (damage by flood excepted)	10,299 97
	39,132 83

Excess of receipts	9,816 83
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STATEMENT No. 2.

Exhibits the receipts and expenditures of the truck system, for the fiscal year ending 30th November, 1847, and estimate of expenditures for 1848.

Tolls received for the use of trucks.	\$14,485 61
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CHARGES TO SYSTEM.

Paid for trucks purchased.	\$3,900 00
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" materials for trucks.	6,904 16
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" castings for trucks.	6,523 00
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" two new engines at boat slips	2,572 89
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Paid for expenses at boat slips, including oil	4,582 81
--	----------

Paid for labor in depots, making and repairing trucks	4,072 92
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Paid for truck agents	494 50
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Total expense of system	29,049 28
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CREDIT SYSTEM.

With 1 set new trucks at Hollidaysburg.	\$1,900 00
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With 2 set partly finished at Johnstown.	2,600 00
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With 4 set built last winter, pres't value.	5,800 00
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With four set during the summer	6,200 00
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With materials for trucks on hand.	650 00
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With 2 engines built at boat slip	2,572 89
	19,722 89

Decrease in value of 13 sets of old trucks.	1,700 00
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Profit of system	3,459 29
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ESTIMATE OF EXPENSES OF TRUCK SYSTEM FOR 1848.
 Expenses, including oil, at two boat slips. 4,350 00
 Materials for repairing trucks 1,500 00
 Castings for trucks 1,000 00
 Truck agents 500 00
 Labor in depots for trucks 1,500 00

8,850 00

This amount is included in the estimate, in statement No. 4, but is put here separate, to show the probable expense in this department.

STATEMENT No. 3.

Shows the expense of passenger cars from the 1st of December, 1846, to the 30th of November, 1847.

Amount received on passengers \$17,269 99

Pay of two passenger car ag'ts, and one state agent \$1,406 00

Oil for passenger cars 105 00

Repairs to passenger cars 846 83

Changing baggage and hire of cars 245 25

2,603 08

14,666 91

The number of passengers over the road, is eleven thousand six hundred and twenty-four.

STATEMENT No. 4.

Exhibits the entire expenditures for motive power during the fiscal year 1847, and estimate for 1848.

Items. Total expenditure in 1847. Estimate for 1848.

Engineers, etc., at incl'd planes. \$20,317 30 \$21,000

Locomotive engineers and firemen 9,493 64 9,500

Labor in riggers loft 1,523 27 1,500

" Hollidaysburg depot. 6,470 91 5,500

" Johnstown depot. 8,229 73 7,000

" Summit smith and carpenter shops 1,344 51 900

Coal at stationary engines. 4,933 89 5,000

Johnstown boat slip 1,736 96 1,700

Hollidaysburg boat slip 1,795 85 1,700

Wood, including sawing and splitting 8,511 66 9,000

Horse power on levels 13,572 53 13,000

" at head and foot of planes 5,707 14 5,000

Materials for building and repairing trucks 6,901 16 11,500

Castings for trucks 6,522 00 1,000

Truck agents 494 50 500

Labor, repairing stationary engines 1,600 10 1,600

Passenger cars and state agent. 1,406 00 1,400

Superintendent, assistant, and clerk 2,396 00 3,650

Tools and materials for motive power 15,588 60 5,000

Hemp ropes 9,364 08 12,500

Wire ropes 10,900 84 4,000

Oil and tallow 3,831 43 4,000

Motive power car conductors. 532 57 400

Changing baggage at Hollidaysburg 245 25 250

Miscellaneous 764 21 500

Castings for motive power purposes 2,301 11 1,500

146,388 27 114,600

Deduct expense of truck system \$29,049 29

Deduct cost of rope 20,264 92

" expense of passenger cars & state agents 2,603 08

Deduct increase in value of materials. 5,648 51

Deduct additions to machinery, depot. 1,898 89

59,456 67

Direct motive power expenses. 86,931 60

STATEMENT No. 5.

Estimate of amount required for repairs for 1848, and to pay debts due on repairs, 1847.

FOR ORDINARY REPAIRS.

For pay of foremen, carpenters, and laborers \$17,500 00

For materials 6,000 00

For castings 4,500 00

\$28,000 00

EXTRAORDINARY REPAIRS, (DAMAGES BY FLOOD EXCEPTED.)

For cleaning out culverts, drains, and ditches, and protecting hill slips, and slope wall 5,100 00

For new turnout at the tunnel 300 00

For building three new stacks at planes 1, 7 and 8 1,200 00

For repairing foundations at planes 5, 8 and 9 1,500 00

For twenty tons railroad iron for repairs 1,400 00

For repairing engine houses and dwellings 3,000 00

12,500 00

Amount required for 1848 40,500 00

To pay balance due for labor and materials for 1847 15,647 77

For repairing damages by flood of October 7, as formerly reported 17,900 00

This amount will be increased in consequence of flood of 24th November, damage to work then partly finished. 2,000 00

19,900 00

Total amount required in repair department 76,047 77

STATEMENT No. 6.

Exhibits the receipts and expenditures of the road from the 1st December, 1846, to the 30th November, 1847.

Receipts for motive power, as per reports of collectors \$155,117 70

Receipts for use of trucks and truckage. 26,593 51

Receipts for railway tolls 48,949 67

230,660 88

Total receipts 230,660 88

Expenses of maintaining motive power \$86,931 60

Expenses of ropes for planes. 20,264 92

Expenses of truck system. 29,049 29

Expenses of passenger cars. 2,603 08

Expenses of increased stock of materials for motive power 5,648 51

Expenses of additional machinery, tools, etc., at depots 1,890 88

Expenses of ordinary repairs to road 23,832 86

Expenses of extraordinary repairs to road 10,299 97

185,521 10

Net profits of the road, (damages by flood excepted.) 45,139 77

STATEMENT No. 7.

Exhibits the accounts with the State treasurer.

MOTIVE POWER DEPARTMENT.

To amount drawn from treasury for motive power \$129,900 00

By amount paid for motive power expenses \$58,863 17

By amount paid for ropes. 20,264 92

By amount paid for labor in Hollidaysburg depot. 4,522 24

By amount paid for labor in Johnstown depot 6,122 80

By amount paid for materials and castings for trucks. 7,697 10

By amount paid for labor, repairing stationary engines 1,343 24

By amount paid for tools and materials for motive power 8,032 15

By amount paid for castings for motive power 1,602 31

By amount paid for riggers loft and Summit shops. 2,282 43

By amount paid on debts due previous to 20th Feb. 7,695 96

By amount paid on debts prior to 1st Dec., 1846. 925 22

119,351 56

Amount due commonwealth 10,548 44

REPAIR DEPARTMENT.

To amount drawn from the treasury for repairs 23,000 00

By amount paid for ordinary repairs 15,069 10

By amount paid for extraordinary repairs 7,669 59

By amount paid on old debts. 259 89

22,998 58

Amount due commonwealth 1 42

Engine Counter.

Mr. Richmond, of Bow, exhibited and explained an engine counter, manufactured by him, on an improved principle. The counters in ordinary use were described as somewhat inefficient machines, liable to error, or of too expensive construction to be generally employed. This counter differed from others chiefly in its simplicity and its accuracy, whilst at the same time, its low price of £7 brought it within the reach of every one. With this machine, the number of strokes made by the engine or other machine could be read off at one view without calculation. The leading or unit hand traversed the entire circumference of the large dial, and those of the three small dials revolved in the same direction. The first motion was described as being given by a sliding bar and fixed spring, instead of by a double pallet, so that the first wheel could not be thrown more than one tooth by one stroke of the engine. The hands were all moved by a train of wheels and pinions, without skip wheels, so that the motion was regular and progressive. These were admitted to be advantages, and in the discussion upon the machine, its merits appeared to be shown very decidedly.

Parcel Traffic on the English Railways.

Practical Suggestions for Increasing the Parcel Traffic on Railways, etc., etc.

Continued from page 184.

35. It has been shown that a parcel of a pound weight might be received, carried, and delivered between London and Birmingham for 4d.; and that of this sum 3d. may be charged to receipt and delivery, including cost and risk, and 1d. to carriage. The distance is 112 miles.

36. If I can show that this distance is certainly a fair average distance every parcel is conveyed throughout the whole kingdom, I shall have established a *prima facie* case for rejecting distance altogether, as an element of charge, and of adopting a **UNIFORM RATE** for the whole kingdom. Are there any grounds for supposing that parcels are carried further than passengers? The average distance each passenger travels between Birmingham and London is about 65 miles; on the Great Western it is 35 miles; on the South Eastern 39 miles; on the South Western 39 miles; for the whole kingdom the average has been estimated about 13 miles. If the average distance of passengers be objected to, surely that of letters will be admitted to afford an unexceptionable analogy. I have good reason for believing that the average distance a letter is estimated to travel, certainly does not exceed 80 miles. To take, therefore, 112 miles as the average distance each parcel travels, is surely a most ample allowance. Four pence, therefore, for the transit (including receipt, carriage, and delivery,) of a parcel of a pound would be a fair and remunerative rate for the whole kingdom. There would be a profit even on parcels sent from the two extremities, from Land's End to Inverness, say 500 miles; for as 0.3d. pays quite profitably for carriage on 112 miles, so five times that amount would pay

profitable for less than five times that distance, to say nothing about the profit on the receipt and delivery.

37. It is with parcels as with letters. The numbers decrease according to distance. Thus take any two towns of like circumstances, and of equal population, the one distant 50 miles from London, and the other 200, and the number of letters passing between London and the first will be more numerous than those between the latter, almost in the proportion of four to one. Such will be found to be the case with parcels.

38. And here it may be remarked that the very smallness of the charge is another reason for the uniformity. The cost of railway expenses with profit being only 0.21. per lb., it is not worth while adopting varying rates, adding the same amount (under a farthing) for every additional 100 miles, or subtracting the proportionate parts of 0.21. for distance below 100 miles. In fact, it would be more just, as well as most convenient and very profitable, to establish a uniform rate of charge.

39. Having thus shown that a uniform rate of 4d. for a parcel of a pound, sent from any part of the kingdom to another, would be remunerative, the next thing is to determine the scale for parcels exceeding a pound. The charge for receipt and delivery would of course only occur *once* with each parcel. Therefore I propose, after the charge of 4d. for the first pound, to adopt a scale of 4d. for each pound after the first, perhaps taking notice only of gradations of two pounds, to save trouble in weighing.

40. Thus the plan which I propose is, that on all the railways of England and Scotland, parcels sent by PASSENGER TRAINS should be subjected to the following rates per pound—distance, as an element of charge, being discarded:—

Under 1 pound.....	4d.
Above 1 pound and under 3 pound.....	5d.
Above 3 pound and under 5 pound.....	6d.
Above 5 pound and under 7 pound.....	7d.
Above 7 pound and under 9 pound.....	8d.

And so on in proportion—a penny for every two pounds.

41. Of course the charge of 3d. for receipt and delivery, remains the same with all parcels: the only charge which increases is that for weight. We have already shown that 0.21. per pound actually pays all railway charges. A rate of 1d. per 2 pound would be rather an increase on the present charges on heavy parcels, whilst it would at the same time be a most welcome change to the public.

42. It would make heavy parcels for short distances rather dearer than they are now. There is no objection to this, as the public would have the advantage in the lighter parcels, and would always have the option of sending heavy parcels by the luggage train at the present cheaper rate. We have sufficient evidence in the recent post office changes to show that there would be no opposition to raising the rate in some cases, coupled with the lowering it in others.

43. The effect of the penny post was to increase the rate of postage in the London district, and other local posts throughout the

kingdom. The quarter of a pound letter, which before the penny post was sent for 1d. out of London, and 3d. in London, became charged under the penny post with 8d. But not a murmur was heard on this account. Every one welcomed the change for its general good, and did not regard the exceptions.

44. Of course it would be necessary that every railway should combine to adopt the general system, and receive its proportionate profits. But a beginning might be made on the London and North Western and Midland railways. There is already the nucleus of a machinery, and there would be no difficulty in extending the principles of the clearing house system to every railway. But it is not necessary to enter upon the organization of the plan here in detail.

45. The receipt and delivery would extend only to those large towns and places where the railways already receive and deliver parcels; just as in the post office, letters are only received and delivered between one post office and another. With the delivery beyond a post office district in rural places the post does not trouble itself. The inhabitants make their own arrangements to meet this SECONDARY distribution. The distribution of parcels beyond the radius of the three mile circle in London, and beyond certain limits in the country, would be of this character—SECONDARY DISTRIBUTION.

46. Perhaps a system of pre-payment, and by means of certain stamps, as in the post office, might be desirable, chiefly as tending to simplify accounts; but this, too, is a matter rather of detail than one of principle essential to the plan, and the consideration of it may be postponed.

47. The policy of adopting such a course as here suggested, remains only to be considered.

48. First as regards the immediate interests of railways. The plan may be said, as a whole, not to propose any positive reduction of charge, but only to begin the charge (a positively higher one in proportion than at present,) at a lower point—at a pound weight—and next to adopt an universal principle of charging by weight only, on the grounds of justice and public convenience.

49. At present the railways get only the heavy small parcels. The average weight of a small parcel on the London and North Western (southern division) is 16 lb. Who carries the smaller parcels? The post office—the carriers—the booksellers, and other private agencies. The instant effect of the measure would be at least to destroy the present illegitimate trade of collecting a great number of small packages, and entering them in bulk; and it would supersede the necessity for exercising any powers of search in parcels, considered obnoxious, by destroying the evasion itself.

50. Unless some such a change is made as that now suggested, and that soon, the railways may prepare themselves to give up a considerable part, if not the whole, of their small parcel business to the post office. Under one aspect, therefore, this plan is only a defensive measure for the protection of rail-

ways. But it is not merely defensive; it has intrinsic merits of its own, which would, I believe, bring increased profits and a new class of business to the railways.

51. We may find some of its elements of profit in the following. It would extirpate the smuggling of parcels in bulk by the carriers; it would attract many small parcels now carried by passengers; it would create a transmission of parcels between private individuals, to mention only books, which does not at present exist to any extent; it would bring to the railways the carriage of all the retail country booksellers' separate small parcels throughout the kingdom, rather than a collection of them in large ones, sent through a few publishers; and it would attract separate small parcels, which are now sent in bulk for economy.

52. The question may be asked, but might not the plan affect the profits derived from the conveyance of the mails? Assume, for a moment, that it annihilated them altogether; it would only be the sacrifice of 1½ per cent. (the profit on mails,) to save 7½ (the profit on parcels,) and with the certainty of increasing this 7½.

53. If the railways resolved on this course, they might even offer to carry the mails gratuitously without loss, if it were expedient to do so, which I doubt. But there are no grounds to suppose that the plan would affect the question at all. The weight of the mails have greatly increased, and the railways have not obtained proportionately increased payment. The weight of the mails which the Birmingham line, by its agreement, undertakes to carry, is considerably under the actual weight conveyed; and if, on the one hand, the railways should obtain the carriage of small parcels under a pound, on the other hand, the post office is every day getting increased service by the increased number of letters, without paying more for the increased service.

54. Another question asked is, If you have a uniform rate for parcels, why not have one for passengers? A little reflection will show that the cases are not parallel. In the case of a small parcel, it is proved that to carry a pound weight 500 miles, the cost to the railways would be less than 1d. To carry a first class passenger on the London and North Western costs 0.831d., or above 4d. per mile; a second class passenger costs 0.487d., or nearly 4d.; a third class passenger costs 0.292d., or above 4d.

55. The cost of a single pound weight per single mile is only 0.0017d. Now, the insignificance of this cost, not measurable in coin, constitutes THE reason for a uniform rate, whereas the importance of 4d., 4d., and 4d. per mile, is THE reason against it. Besides, the chief elements of charge in parcels, receipt, delivery, entry in divers books, etc.—does not apply to passengers at all. Other points of difference will occur to every one, but these are surely sufficient to refute the argument if it be adduced.

56. Besides the profit of the proposed plan, it has a feature of general railway policy which especially recommends it for adoption

at the present time. I believe it would furnish a more effectual argument against government management and interference with railways than anything else. The traffic of small parcels would always afford an example of competition with the post office, useful to both. The delivery would be more frequent, and therefore more convenient to the public; the charge would be cheaper, and therefore more welcome. But to enable the railways to give the public this boon, the present law of liability must be altered. The common law holds the railway responsible for safe delivery, whereas the post office repudiates the liability, even when a letter is especially registered; and a statute sanctions the repudiation! Make the law in both cases alike: let railways adopt a uniform rate for parcels of one pound and upwards, and the public will obtain literally a parcel postage more rapid and cheaper than that offered by the post office. The railways will present an actual illustration of the Marquis of Lansdowne's very correct apophthegm, that in this as in all other instances, the government is always the inferior trader of the two.

57. My advice to railways, therefore, is—Assess the present charges on a uniform system, according to weight;—obtain profit and popularity, or remain passive, and see the whole of the small parcel traffic absorbed by the post office.

58. In conclusion, I would say, that the practical managers of railways will, I am sure, admit that such a plan as that suggested, abounding as it necessarily does, in many intricate details, cannot be expected to be perfect or incapable of improvement. I believe it enunciates principles which are sound; and if this be the case, the application of them will not be attended with insurmountable difficulties.

H. C.

Columbia Railroad Report.

Continued from page 165.

REPAIR DEPARTMENT.

To the Board of Canal Commissioners of the Commonwealth of Pennsylvania:

GENTLEMEN: As the supervisor of repairs on the Columbia and Philadelphia railway, I respectfully submit the following report and accompanying statements, exhibiting the receipts and expenses, and all other transactions of that department since the 20th of January last, the period when it was placed under my charge, and also for the entire fiscal year commencing December 1, 1846, and ending December 1, 1847.

When I took charge of the road, it was, considering the season, in a tolerably good state of repair. There was, however, a very great deficiency of materials to keep it in that condition, and prepare it for the reception of the increased business of the spring. Immediate measures were taken to supply those deficiencies, but owing to the bad state of the country roads, and the consequent difficulty of transporting timber, etc., in wagons, and the enhanced price of labor and materials of all kinds, it was with much trouble and increased expense that the supplies were obtained.

Within the past year nearly sixty tons of new rails, weighing 53 lbs. to the yard, have been used in repairing the road. This iron was purchased under the directions of the board, from Messrs. Murdock, Leavitt & Co., agents for the Montour works at Danville, at a cost of sixty seven dollars per ton. Nearly eleven thousand cast iron chairs, about twenty thousand feet of mud sills and string pieces, and ten thousand one hundred cross ties have been used in repairing the road.

The cost of repairs during the year has been \$70,195 45, exceeding the estimates for the year \$2,095 45. This excess was caused partly by the increased price of materials, incident to the general rise of prices in the early part of the season, and partly by extra repairs, hereafter to be mentioned, which were not included in the estimate for the year.—The laborers too, being more than usually interrupted by the almost constant passing of the trains, added considerably to the cost of repairs.

The most important repairs done within the year, have been those to the Coatesville and Valley Creek viaducts. In the repairs of these structures it was found that the estimates fell considerably short of the actual cost. This is not unusual, as in most cases where extensive repairs are to be made, it is found upon removing that which has to be replaced, that more materials and labor are required than were at first contemplated.

For the Coatesville viaduct no estimate was made for the cast iron plates inserted between the joints of the arches, nor for those inserted in the piers upon which the arches rest, nor for the labor of a stone cutter to dress the piers for the reception of the plates. It was found also, that the large timbers inserted in both sides of each pier, upon which the main chords of the viaduct rest, were entirely decayed and required to be removed. These were nearly all replaced with cast iron blocks weighing 100 lbs. each. No estimate for this item was made, as its necessity was not foreseen.

At the Valley Creek viaduct some extra timber and iron, not embraced in the estimate, were required for its completion. There was also an additional half pier and trussel work erected under the western span, giving much greater strength to that structure. This latter improvement was made under directions given by the board, while on an official visit over the road in September last.

The whole excess of cost over the estimates for the two structures above named, was more than one thousand dollars.

These viaducts are now in a most excellent and substantial condition, requiring only a few more iron blocks and some calking to render them complete in all respects.

The Mill Creek viaduct, so often reported as wanting a new floor, will be finished, it is confidently expected, within the present winter. It was deferred during the summer only on account of the pressing necessity of placing the Coatesville and Valley Creek viaducts in a safe and permanent condition.

Within the year considerable temporary

repairs have been made to the other viaducts, small bridges, water stations, etc., and much more will be required during the ensuing year. The condition and durability of the Schuylkill and Big Conestoga viaducts would be essentially improved and promoted by substituting iron rails for the wooden tracks now in use. I therefore reiterate the hope, so often expressed by all my predecessors, that so desirable an object, (especially in regard to the last named structure) may be speedily accomplished.

The estimates for repairs for the ensuing year, it will be seen, amount to nearly \$70,000. These include \$8,160 for new railway iron, and \$7,919 for the repairs of viaducts, small bridges, water stations, roofing depot at Columbia, etc., and may be classed as extraordinary repairs. For the detail of the items constituting the last named sum, I respectfully refer the board to a paper annexed to this report, marked "Appendix, No. 2." Every object therein stated, except those relating to the alteration of the tracks at Columbia, is of much importance, and will require immediate attention; otherwise large sums will have to be expended in renewing what now only needs repairing. As to altering the track at Columbia, the board have all the papers and documents leading to a full understanding of the subject, before them, and to their judgment and decision the matter is respectfully referred.

The quantity of new iron asked for will be barely sufficient to replace that which is entirely worn out. That part of the first section of the road extending from Vine and Broad streets to the Schuylkill viaduct, is now in a condition scarcely passable. This is owing to the constant and heavy trade passing over it from the Reading railroad, and to the number of crossings, sidings, etc., leading from it to the several warehouses, coal yards, quarries, etc., which extend over nearly the entire length of that section. Much new iron therefore is wanted on that portion of the road. The second section, extending from the head of the inclined plane to "White Hall," being but a single track, over which the trains run both ways, will also require a large portion of new rails to put it in good condition. Each of the other sections require more or less new iron to replace that which is worn out, and the increasing business would seem to justify a judicious expenditure for that object—thereby placing the whole line of road in a condition to transport safely all the trade that may be offered.

The propriety of relaying the north track from White Hall to the inclined plane, has been so often pressed upon the attention of the board and the legislature, that it is deemed unnecessary to dwell upon the subject in this report. All the arguments hitherto used in its favor are still applicable. The expense, detentions and annoyances, caused by the necessity of stopping the trains at White Hall, have been felt in a greater degree the present year than formerly, on account of the increased amount of business; and it is earnestly desired that measures will be adopted to remedy the evil.

It is to be hoped that an enlightened legislature will appreciate the necessity of making liberal appropriations for the objects designated, and thus enable to board, through the exercise of a judicious economy, to repair those portions of the works now approaching dilapidation—to renew which will hereafter require the outlay of large amounts of money.

The entire line of road, with the exceptions above noticed, is now in very good order.—Extensive ditching and draining has been done during the fall, and the repairs of the road have been made in a substantial manner—the amount of labor, therefore, necessary during the winter, will be very limited.

For the receipts and expenditures of the repair department, and the estimates for the ensuing year, I respectfully refer the board to the accompanying tabular statements.

Statement, No. 7, shows the account of the supervisor with the State treasurer.

Statement, No. 8, shows the receipts and expenses of the repair department from Dec. 1, 1846, to Dec. 1, 1847.

Statement, No. 9, shows the detail of expenses of the repair department from Jan. 20 to Dec. 1, 1847.

Statement, No. 10, shows the estimates for repairs for 1848.

Statement, No. 11, shows the account of the supervisor with the state treasurer on account of materials purchased for repairs of road, for 1848, as per act of March 16, 1847.

Statement, No. 12, shows the account of the supervisor with the state treasurer, on account of farm and road bridges, as per act of March 16, 1847.

All which is respectfully submitted.
WM. ENGLISH,
Supt of Repairs Phila. & Col. R. R.
Supervisor's Office,
Parkersburg, Dec. 1, '47.

STATEMENT, No. 7,
Showing the Account of the Supervisor with the State Treasurer.

Amount drawn from the treasurer of the board of canal commissioners, from Jan. 20, to Dec. 1, 1847.....	\$49,400 00
Amount paid for repairs of road and mechanical structures during the same period.....	39,268 78
Amount paid for bills due from Dec. 1, 1846, to Jan. 20, 1847.....	5,815 68
Amount paid on debts due prior to Dec. 1, 1846.....	306 48
Amount paid for new railway iron.....	4,008 72
	<u>49,399 66</u>

Due commonwealth..... 34

STATEMENT, No. 8,
Showing the Receipts and Expenses of the Repair Department, from Dec. 1, 1846, to Dec. 1, 1847.

Amount of railway tolls, as per reports of collectors.....	\$268,047 58
Amount paid by W. English from Jan. 20, to Dec. 1, 47.....	39,268 78
Amount paid by W. English on bills due from Dec. 1, 1846, to Jan. 20, 1847.....	5,815 65
Amount paid for new railway iron.....	4,008 72
Amount due as per statement No. 9.....	21,102 27
	<u>70,195 45</u>

Excess of receipts over expenses..... 197,852 13

STATEMENT, No. 9,
Showing the Detail of Expenses of the Repair Department from Jan. 20, to Dec. 1, 1847.

Object of Expenditure.	Am't paid.	Am't due.	Total.
Labor and service road.....	\$26,922 96	\$12,094 83	\$39,017 79
Smith work.....	752 87	398 59	1,151 46
Carpenter & wheelwright work.....	2,767 92	1,120 60	3,888 52
Mud-sills and cross-ties.....	1,890 15	2,259 57	4,149 72
Castings.....	4,130 96	4,302 62	8,433 58
Materials for repair of mech. structure	2,258 20	388 13	2,646 33
Miscellaneous, stationery and printing.....	283 10	257 43	540 53
Hardware and tools.....	262 62	280 50	543 12
	<u>39,268 78</u>	<u>21,102 27</u>	<u>60,371 05</u>

STATEMENT, No. 10,
Estimated Expenses for Repairs for 1848.

Labor and service on road.....	\$39,500
Smith work.....	1,100
Carpenter work for repair of mechanical structure.....	3,500
Lumber for mechanical work.....	4,900
Castings.....	6,850
Mud-sills and cross-ties.....	4,750
Hardware, tools, etc.....	800
Miscellaneous, stationery and printing.....	350
Railway iron, 220 tons, at 68 dollars per ton.....	8,166
	<u>69,910</u>

STATEMENT, No. 11,
Showing the Account of the Supervisor with the State Treasurer, on account of materials purchased for repairs of road for 1848, as per act of March 16, '47.

Amount drawn from the treasurer of the board of canal commissioners, October 18, 1847.....	\$3,445 26
Amount paid as per vouchers filed in auditor general's office.....	3,445 26

STATEMENT, No. 12,
Showing the Account of the Supervisor with the State Treasurer, on account of farm and road bridges, as per act of March 16, 1847.

Amount drawn from the treasurer of the board of canal commissioners, Sept. 29, 1847.....	\$400 00
Amount paid as per vouchers filed in auditor general's office.....	401 09
Due supervisor.....	1 09

APPENDIX, No. 2,
Estimate of extraordinary repairs for 1848.

RAILROAD BRIDGES—(large.)	
Bridge.	Mill post.
Downingtown. 33 repairing bridge and track.....	\$900
Coatesville.... 40 6000 lbs. iron and caulking.....	475
Piqua..... 49 repairing bridge and track.....	250
Millcreek.... 64 " " ".....	1,300
Big Conestoga 68 " " ".....	164
Little " 72 weather boarding and labor.....	40
Strickler's.... 71 flooring trussel work.....	1,000
	<u>4,129</u>

RAILROAD BRIDGES (small.)	
Moose's..... 50 rebuilding.....	50
Lamen's..... 73 flooring and labor.....	55
Saner's..... 75 wall and wood work.....	100
	<u>205</u>

WATER HOUSES.	
Morgan's corner at 14 mile post, repairing.....	100
Eagle..... 17 " rebuilding.....	150
Paoli..... 21 " roofing.....	20
North Leaman's. 58 " repairing.....	20
South " 58 " rebuilding.....	150
	<u>440</u>

COLUMBIA DEPOT.	
Columbia depot, roofing, painting, etc.....	1,600
" house for lathe & boring mill.....	200
	<u>1,800</u>

MISCELLANEOUS.
Morgan's corner, renewing siding and labor... 50
Columbia, altering track on Front street..... 400
" " at the slip..... 500

950

FARM BRIDGES.
Bowman's at 2 mile post, renewing..... 95
Buck.... 10 " "..... 65
Fulton's.. 44 " "..... 60
Murphy's. 45 " "..... 75
Gap..... 52 " trussel work, etc..... 50
Leaman's. 58 " new floor and labor... 50

395

Total am't for extraordinary repairs for 1848 7,919

CHILLED RAILROAD WHEELS.—THE undersigned, the Original Inventor of the Plate Wheel with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

A. TIERS.
Point Pleasant Foundry,
He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country.

A. T.
Kensington, Philadelphia Co., }
March 12, 1848. } 111f

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, Civil Engineer,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition. 92v11v

NORWICH CAR FACTORY,
NORWICH, CONNECTICUT.

At the head of navigation on the River Thames, and on the line of the Norwich and Worcester Railroad, established for the manufacture of
RAILROAD CARS,

OF EVERY DESCRIPTION, VIZ:
PASSENGER, FREIGHT AND HAND CARS,

ALSO, VARIOUS KINDS OF
ENGINE TENDERS AND SNOW PLOUGHS.
TRUCKS, WHEELS & AXLES

Furnished and fitted at short notice.
Orders executed with promptness and despatch.

Any communication addressed to
JAMES D. MOWRY,

General Agent,
Norwich, Conn.,

Will meet with immediate attention. 1y8

DAVIS, BROOKS & CO., NEW YORK,
offer for sale:
150 tons Railroad Iron, 60 pounds per lineal yard, of an approved pattern, and in long bars; also,
500 tons, ditto, expected to arrive in the month of April next. 618

NEW PATENT CAR WHEELS.
THE SUBSCRIBERS ARE NOW MANUFACTURING Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.
SIZER & CO.
January 29, 1848. if Springfield, Mass.

TO LOCOMOTIVE AND MARINE ENGINEER BOILER BUILDERS. Pascal Iron Works Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufacture and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.
New York.

IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice. Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with different editions of the same tables; and all the tables throughout the book have been read carefully by proofs four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot afford to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

NOTICE TO RAILROAD CONTRACTORS. The completion of the Western and Atlantic Railroad of the State of Georgia, from Dalton to Chattanooga on the Tennessee river—38 miles, and a tunnel for a single track, 1400 feet long.

Sealed proposals will be received, until the 20th day of March next, at the Chief Engineer's office, of the Western and Atlantic Railroad in Atlanta, Georgia, for the completion of the grading and masonry, the bridging, superstructure, iron rails and fastenings, single track tunnel 1400 feet long, depots, turn tables, turnouts, pumps and everything else necessary for the reception of the locomotives and cars, on that portion of the Western and Atlantic railroad lying between Dalton and Chattanooga.

Proposals are invited for detached portions of said work, and also for the whole in one contract, according to the Act of the Legislature, approved the 30th December, 1847.

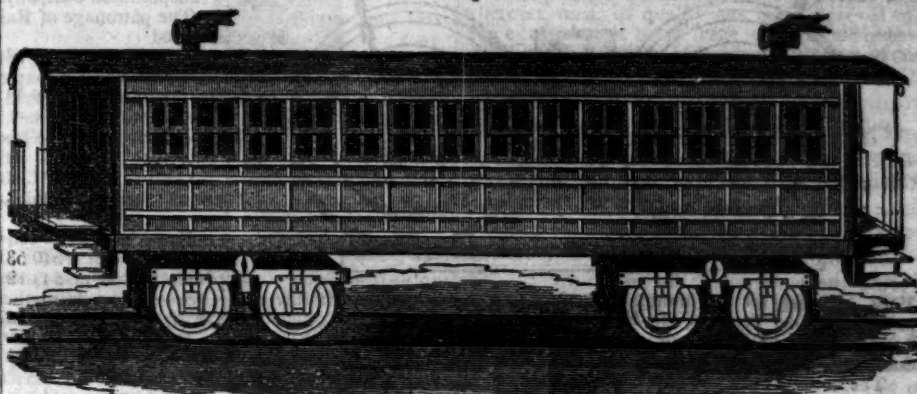
Plans and specifications can be examined, and detailed information given at the Chief Engineer's office, in Atlanta, on and after the 21st of February next.

GEO. W. TOWNS, Governor.
WM. L. MITCHELL, Chief Engineer.
Atlanta, Ga., January 24, 1848. [716]

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by
A. & G. RALSTON
Mar. 20th 4 South Front St., Philadelphia.

DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes. 106

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark-Arrester recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

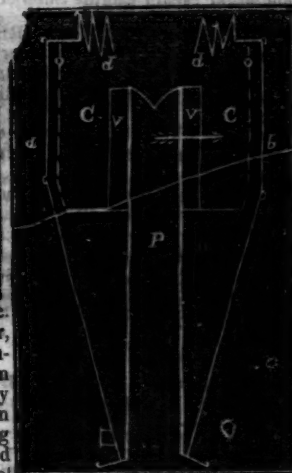
These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits.

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. Philadelphia, Pa., April 6, 1844.

.. The letters in the figures refer to the article given in the Journal of June, 1844. ja45



LOCOMOTIVE AND CAR AXLES.

The Subscribers are now prepared to receive orders for the well known and approved Reading Locomotive and Car Axles—drawn to any required pattern from Bloom Iron only. Address

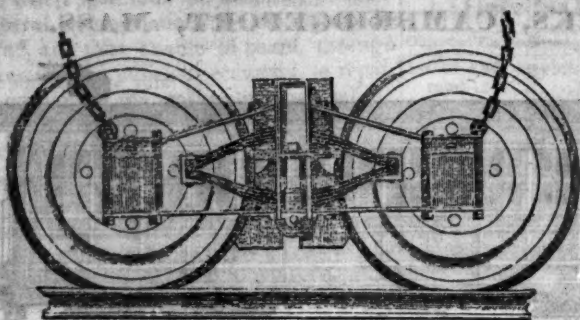
SAML KIMBER & CO.,
Willow Street Wharf,
Philadelphia, Pa.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by 4 Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartsbroric.
100 Tons Welsh Forge Pigs.
For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., Philadelphia.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER

having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—

for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.			HEMPEN ROPES.			CHAINS.		STRENGTH Tons.
Wire gauge number.	Circumference of rope.	Weight per fathom.	Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	
	INCH.	LBS. OZ.	INCH.	LBS. OZ.		LBS.	INCH.	
11	4 1/2	13 5	10	21 -	50	15-16		20
13	3 1/2	9 3	8 1/2	16 -	27	11-16		13 1/2
14	3 1/4	6 11	7 1/2	12 8	17	9-16		10 1/2
15	2 3/4	5 2	6 1/2	9 4	13 1/2	1-2		7 1/2
16	2 1/4	4 3	6	8 8	10 1/2	7-16		7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION

of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT,
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
Reading, Pa.

river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846.

W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,]

WILLIAM ROE, Supt of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845.

[Signed,] G. A. NICOLL,

Supt. Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845.

N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car. For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot,

[Signed,] JOHN LEACH,

Jamaica November 12, 1845.

1y19 Supt. Motive Power

TO RAILROAD COMPANIES AND MANUFACTURERS OF RAILROAD MACHINERY.

The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
445 N. E. cor. 12th and Market sts., Philad., Pa.

THE NEWCASTLE MANUFACTURING

Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,

445 President of the Newcastle Manuf. Co.

KEARNEY FIRE BRICK. F. W.

BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire,
Peter Cooper,
Murdoch, Leavitt & Co. } New York.

J. Triplett & Son, Richmond, Va.

J. R. Anderson, Tredegar Iron Works, Richmond, Va.

J. Patton, Jr. } Philadelphia, Pa.

Colwell & Co. }

J. M. L. & W. H. Scovill, Waterbury, Con.

N. E. Screw Co. } Providence, R. I.

Eagle Screw Co. }

William Parker, Supt. Bost. and Worc. R. R.

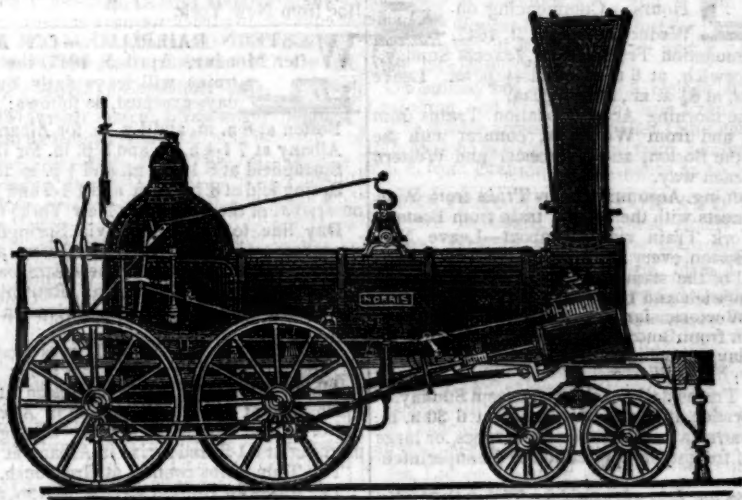
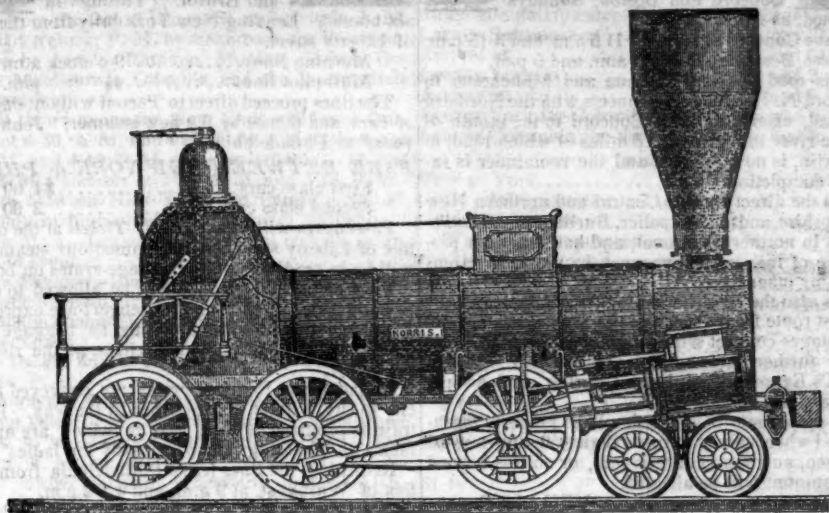
New Jersey Malleable Iron Co., Newark N. J.

Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly.

35

NORRIS' LOCOMOTIVE WORKS. BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA.



THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled

Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callen-cars; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patterson, N. J., or 60 Wall street, N. York.

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
Vine St. Wharf, Philadelphia.

T. & C. WASON, Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner.

N. B. Particular attention paid to the manufacture of the most improved Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25 1847.—1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1½ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent,
Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phoenix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,

Nov. 10, 1847. [tf.] Philadelphia, Penna.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed.

JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y. The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Eting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation; and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, Agent

Spikes are kept for sale, at Factory Prices, by & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 223 Water St., New York; A. M. Jones, Philadelphia; T. Jarviers, Baltimore; Degrand & Smith, Boston.

Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T-Rail—weighing about 60 lbs. to the yard, for sale by BOORMAN, JOHNSTON & CO., 1m ja 1 119 Greenwich St., New York.

NEW YORK AND ERIE RAILROAD LINE

SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M. Fare between New York and Otisville, \$1 50; way-fare in proportion.

For MILK—Leave Otisville at 5½ o'clock, morning and evening.

For FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

24f

H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY.

Fall and Winter Arrangement, 1847. On and after Monday, September 20th,

until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Cincinnati at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon.....\$1 00

" " " Xenia.....1 50

" " " Springfield.....2 00

" " " Columbus.....4 00

" " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every \$500 in value over that amount.

47c

W. H. CLEMENT, Sup't.

BALTIMORE AND SUSQUEHANNA

Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger

trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.

Arrives at.....9 a.m. and 6½ p.m.

Leaves York at.....5 a.m. and 3 p.m.

Arrives at.....12½ p.m. and 8 p.m.

Leaves York for Columbia at.....1½ p.m. and 8 a.m.

Leaves Columbia for York at.....8 a.m. and 2 p.m.

FARE.

Fare to York.....\$1 50

" Wrightsville.....2 00

" Columbia.....2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....\$9

Or via Lancaster by railroad.....10

Through tickets to Harrisburg or Gettysburg.....3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owning's Mill, arriving at the Mills at.....5½ p.m.

Returning, leaves Owning's Mills at.....7 a.m.

D. C. H. BORDLEY, Sup't.

31 ly Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1-25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 35ly

CENTRAL AND MACON AND WESTERN

Railroads, Ga.—These Roads with the Western and Atlantic Railroad

of the State of Georgia, form a

continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Savannah to Macon—Central Railroad.....190 Miles.

Macon to Atlanta—Macon and Western.....101

Atlanta to Oothcaloga—Western and Atlantic.....80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....\$0 50

Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....0 50

On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....0 20

Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....0 20 pr. 100lbs. 35

Crockery, per cubic foot.....0 15

Molasses and Oil, per hhd., (smaller casks in proportion). 9 00

Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....1 25

Ploughs, (small,) and Wheelbarrows.....0 80

Salt, per Liverpool Sack.....0 70

Passage—Savannah to Atlanta, \$10; Children, under 12 years of age, half price, Savannah to Macon, \$7.

Goods consigned to the subscriber will be forwarded free of Commissions.

Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, Forwarding Agent, C. R. R.

Savannah, Atg. 15th, 1846.

1y34

BALTIMORE AND OHIO RAILROAD.

MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and

Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington, and the Relay house. Fare \$1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. 13ly1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, \$8 00. Freight—On weight goods generally.... 50 cts. per hundred. On measurement goods..... 13 cts. per cubic ft. On brls. wet (except molasses and oil).....\$1 50 per barrel. On brls. dry (except lime).... 80 cts. per barrel. On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred. On hhds. and pipes of liquor, not over 120 gallons.....\$5 00 per hhd. On molasses and oil.....\$6 00 per hhd. Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE, y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from

Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....\$26 50

Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandise consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr, Agent.

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT, Chief Engineer.

Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville, 92		\$3.50 and \$3.00	
" " Reading, 58		2.25 and 1.90	
" Pottsville " 34		1.40 and 1.20	

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

Winter Arrangement.

Philadelphia for Baltimore, 8¹/₂ a.m. and 4 p.m.

Baltimore for Philadelphia, 9 a.m. and 8 p.m.

Connecting with Mail Lines North, South & West.

On Sundays, only the 4 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R. Leave Philadelphia at 3¹/₂ p.m. No line on Sun.

Leave Baltimore at 3 p.m. day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8¹/₂ a.m., mail, 1¹/₂ p.m., 4 p.m., mail. From Wilmington to Philadelphia, 8 a.m., 1 p.m., mail, 6 p.m., 12¹/₂ a.m., night mail.

1. R. TRIMBLE,

Engineer and General Superintendent.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with

the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—33 miles from Chattanooga, Tenn.

Between Augusta and Dalton, 271 miles.

Between Charleston and Dalton, 408 miles.

RATES OF FREIGHT.

1st class. Boxes of Hats, Bonnets, and Furniture, per cubic foot.....

2d class. Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs. 1 00 1 50

3d class. Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc. 0 60 0 85

4th class. Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc. 0 40 0 65

Cotton, per 100 lbs. 0 45 0 7

Molasses, per hogshead. 8 50 13 50

" " barrel. 2 50 4 25

Salt per bushel. 0 18

Salt per Liverpool sack. 0 65

Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows. 0 75 1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,

Supt. of Transportation.

Augusta, Ga., July 15, 1847.

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DAY, CROSKY & ROSS, COMMISSION MERCHANTS,

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To all parts of the United States, North and South America, West Indies, India, [overland or otherwise.] Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

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From 4 inches to 1 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T. L., and other fixtures to suit. Fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.

Manufactured for and sold by

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FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER, and

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These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

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Patentee.

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LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

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DEAN, PACKARD & MILLS, MANUFACTURERS OF ALL KINDS OF RAILROAD CARS,

SUCH AS PASSENGER, FREIGHT AND CRANK CARS,

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SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

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